SBN Far Detector Building Hazard Awareness Training Handout

Version 2.0
10 October 2017

Overview

The installation phase of the ICARUS experiment presents many potential hazards. This document is intended to inform you of the potential hazards you may encounter in the SBN-FD building and the proper precautions to take to reduce risks. Please read the entire document, then either take the online test, or sign and submit the signature sheet at the end. As new phases are entered, updated versions of this document will be released and retraining will be required.

1 Introduction

This training document outlines the hazards specific to the SBN-FD building.

Upon entering the SBN-FD building, you MUST check the Notification Board (located in the main entrance) for the updates on current hazards. If you may be creating any hazards with your work, inform the SBN-FD Floor Manager, Kelly Hardin, hardin@fnal.gov (or designee) so that this information can be included on the Notification Board.

If you find a situation in which you need advice, training, review or a decision in regards to safety or safe operations, you should first consult with your immediate supervisor. If you and your supervisor conclude that the matter goes beyond your own group, that you need assistance in resolving it, or that you need to arrange for safety training, you should contact the Neutrino Division (ND) Division Safety Officer (DSO), Angela Aparicio (x3701, asands@fnal.gov). In the event of an emergency, you should call ext. 3131 from any Fermilab telephone.

Environmental Safety, Health & Quality (ESH&Q) materials referenced in this document can be consulted for guidance on ESH&Q issues. These materials can be found on-line at this URL: http://eshq.fnal.gov/atwork/

1.1 Planning Your Work

Prior to initiating new work at the SBN-FD you need to contact the SBN-FD Installation Manager, Fernanda Garcia (x3798, fgarcia@fnal.gov) . Depending on the scale, complexity, and associated safety hazards you may be asked to make a small presentation at the weekly SBN-FD Installation Meeting. The appropriate ES&H documentation, such as written hazard analyses, and sign-offs will be required prior to starting any new work.

Daily planning and coordination on site at the SBN-FD building will be performed by the SBN-FD Floor Manager, Kelly Hardin (x2933, hardin@fnal.gov).

ES&H oversight will be provided by the the ND DSO, Angela Aparicio (x3701). Issues of building maintenance should be directed to the SBN-FD Building Manager, Bryan Johnson (x2186 or x2820, bjohnson@fnal.gov). The Facility Coordinator is Stephen Hahn (x2123, hahn@fnal.gov).

2 Electrical Hazards at SBN-FD Facility

2.1 Impedance Monitoring System

The Impedance Monitoring System monitors the 'isolation' between the building and detector grounds. When a direct connection is made between the two grounds, a visual flashing warning beacon and audible alarm is activated. The audible alarm sound is a steam engine train whistle.

There are many locations within the facility where detector and building grounded conductive materials come within close proximity to each other. These areas are identified with red tape on the detector grounded items.

In the event that the warning beacon and audible alarm are activated, all workers should stop and see if something they have done has caused the short. If assistance is required, notify the SBN AC Electrical Coordinator (x3100). Workers will be asked of their exact location and what they were doing when the alarm was activated.

3 Hazardous Materials at the SBN-FD Facility

Any cutting, coring/drilling of concrete requires ESH review of the work. Contact the ND DSO. Depending on the type and amount of work, controls such as a HEPA vacuum or respiratory protection may be required. See the Fermilab Silica Guidance Table for more information.

4 Emergencies

Call ext. 3131 from a lab phone (630-840-3131 from a cell phone) in the event of an emergency situation, such as personnel requiring medical treatment for any reason. Stay on the phone until the emergency operator indicates that s/he has all of the necessary information, including your name, location and nature of the emergency.

4.1 Steady Alarm (Fire Alarm)

Exit via the closest exit door; gather at the emergency assembly area, located in the SBN-FD parking lot.

4.2 Whooper Alarm (ODH Alarm)

Exit via the closest exit door; gather at the emergency assembly area, located in the SBN-FD parking lot.

4.3 Sitewide Emergency Warning System (SEWS)

This is a verbal communication system broadcast throughout all areas of the laboratory. It is used to notify personnel when hazardous conditions exist and what protective actions to take. It is very important that you respond to its warning tones and messages and that you follow the transmitted instructions. If the nature of the message indicates severe weather (e.g. a tornado), promptly go to the designated shelter for your area.

The designated shelter areas are either of the stairwells. Proceed to the lower levels of the stairwell, without exiting the stairwell. Remain in the shelter until given directions via the safety alert monitor that it is safe to exit.

5 Hazards Associated with Working at Heights at SBN-FD

Hard hats are required whenever working in an area where personnel lifts (such as aerial or scissor lifts) are in use, or in locations where work is occurring overhead. Fall protection is required when working in aerial lifts (boom or articulating).

Any ladder use on the surface or mezzanine levels where the ladder is placed within a ladder-height distance from any guardrail requires the use of fall protection equipment. Some unloading activities on the loading dock may expose personnel to a fall hazard that will require the use of fall protection equipment to mitigate. If an anchor point is not already established, contact the ND DSO for assistance.

Only individuals who have completed Fall Protection Orientation [FN000304] Training may use fall protection equipment.

6 Hazards Associated with Sustained High Noise Levels at SBN-FD Facility

Some tools and equipment used during the installation period may generate high noise levels. Signs that the noise level is hazardous include if you are unable to hear a person talking (without shouting) standing 3 feet from you. If you believe the noise levels are excessive, contact the ND DSO or the ESH&Q Section Industrial Hygiene Group, who can review the work and noise levels to determine if engineering controls or personal protective equipment is required.

7 Confined Spaces and Limited Access Areas at SBN-FD Facility

The sump pit, warm vessel and cryostats are confined spaces that require a confined space entry permit. Do not enter unless you have a completed entry permit. Contact the ND DSO or the ESH&Q Section Industrial Hygiene Group for entry permit approval.

8 Miscellaneous

It is always preferred that people not work alone. When this is impractical, workers should at least ensure that another person, such as their supervisor, is aware of when and where they are working, and they should make arrangements to periodically check-in with that person. This is especially important for work during off-hours. Also note that for some types of jobs, explicit "two-man rule" requirements may exist.

Appropriate PPE must be worn to protect against hazards. Consult the written hazard analysis, your supervisor, the SBN Installation Coordinator, or ND DSO if unsure what PPE is necessary.

9 SBN-FD Building Hazard Awareness Quiz

Name: _____ ID#: _____ Date: _____

1) What actions should you take if you hear the tornado sirens?
   a) Stay on the main level of the building
   b) Take shelter in one of the stairwells
   c) Get in your vehicle and drive home
   d) Step outside to look for signs of tornadoes

2) What actions should you take if you hear a fire alarm?
   a) Take shelter in one of the stairwells
   b) Investigate if there really is a fire
   c) Evacuate the building and gather in the SBN-FD parking lot
   d) Get in your vehicle and go home

3) Approval to begin a job/task at the SBN-FD building must be received from:
   a) SBN Program Coordinator
   b) SBN ESH Coordinator
   c) Fermilab Fire Department
   d) SBN-FD Installation Manager

4) What actions should you take if you hear the impedance monitor alarm?
   a) Call extension 3131
   b) Call the Main Control Room
   c) Call the SBN AC Electrical Coordinator
   d) Leave the building immediately

5) What should you do in the event any person requires medical treatment?
   a) Panic
   b) Call extension 3131
   c) Call the installation manager
   d) Call the Main Control Room
   e) Treat the person with a first aid kit

6) When performing a task that requires the use of fall protection equipment, which of the following must be developed prior to the start of work?
   a) A written hazard analysis
   b) A written fall rescue plan
   c) A Human Performance Improvement report
   d) Both A & B

7) Using a ladder next to a guardrail will require the use of fall protection equipment.
   a) True
   b) False

8) Tasks that require cutting, drilling or grinding into concrete must be reviewed by ES&H personnel.
   a) True
   b) False

10 Signature Page and Training Record

"I have read the **SBN-FD Hazard Awareness Training Handout** and understand the hazards present within the facility. Also, I agree to follow all of the listed work rules and emergency procedures."

Print your name: _____Fermilab ID#: _____

Division/Section/Affiliation: _____Department/Group: _____

Fermilab Phone #: _____ Mail Station: _____

Email address: _____

Your signature: _____

Today's Date: _____

If you have not completed this training online, please complete the quiz and this form and return both to:

Angela Aparicio, MS 119

----------FOR ADMINISTRATIVE USE ONLY----------

Course: SBN-FD Hazard Awareness Training (NDSBNFD1/CB/01)

Quiz score: _____/8 (score < 6 = fail)

TRAIN group assignment: _____

Authorization: _____
(Must be signed by ESH&Q personnel)